

IN THE ABSTRACT:

Please amend abstract as follows:

**Abstract**

Disclosed is an audio signal time-scale modification which utilizes variable length synthesis for the improvement of output audio quality and reduced cross-correlation computations for the reduction of computation loads to a processor. An analysis window consisting of  $N+K_{max}$  audio samples is selected from an input ~~stream~~ of audio samples and is shifted by the predetermined interval along an output ~~stream~~ audio samples to find optimal shift  $K_m$ , which ensures best cross-correlation between  $N_{ov}$  audio samples of the analysis window and last  $N_{ov}$  audio samples of the output ~~stream~~ audio samples, and a particular value of  $N_{ov}-f N_m$  at which a coefficient of correlation between them is larger than a reference value or is the maximum one among a plurality of coefficients of correlation calculated with varying the value of  $N_{ov}$ . The audio samples involved in the calculation of cross-correlation are down-selected by the predetermined ratio from  $N_{ov}$  audio samples of the analysis window and last  $N_{ov}$  audio samples of the output ~~stream~~ audio samples, respectively. The analysis window may also be shifted by the plurality of audio samples per one shift. The audio samples ranged  $K_m-(N+K_m+N_m-N_{ov})^{th}$  region  $(K_m+N_{ov}-N_m)^{th}$  sample in the analysis window is determined as an add frame. The existing last  $N_{ov}-f N_m$  audio samples of the output ~~stream~~ audio samples are replaced with new  $N_{ov}-f N_m$  audio samples obtained by weighting and adding the overlapped parts, i.e., the first  $N_{ov}-f N_m$  audio samples of the add frame and the last  $N_{ov}-f N_m$  audio samples of the output ~~stream~~ audio samples, while remaining part of the add frame is simply appended to the tail of the new  $N_{ov}-f N_m$  audio samples in the output ~~stream~~ audio samples.